

**IMPROVEMENT EFFORTS ACTIVENESS AND STUDENTS**

**ACHIEVEMENT IN MATHEMATICS LEARNING**

**WITH COOPERATIVE LEARNING MODEL**

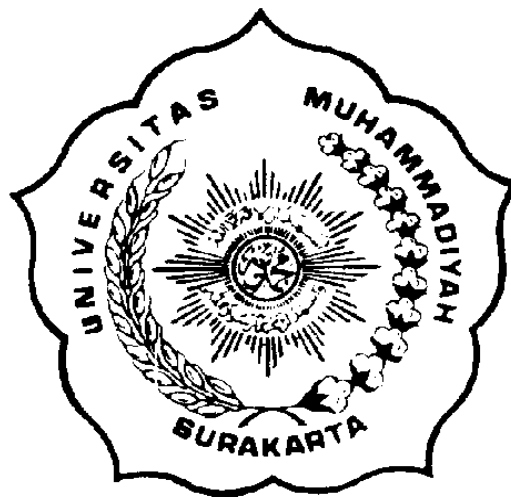
**TYPE THINK PAIR SHARE AND MAKE A MATCH**

**(CAR Class VII B SMP Negeri 1 Surakarta in Academic Year 2012/2013)**

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Pembimbing

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TYPE THINK PAIR SHARE AND MAKE A MATCH**  
(CAR Class VII B SMP Negeri 1 Surakarta in Academic Year 2012/2013)

By

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**Abstract**

*The objective of this research is to improve the activeness and student's achievement in mathematics learning with implementing cooperative learning model type Think Pair Share and Make A Match. This research is a classroom action research (CAR). Recipient subject of the action is class VII B SMP Negeri 1 Surakarta with the number of students is 26 students and the subject of the action giver is mathematic teacher who collaborated with researcher. Methods of data collection is done by observation, documentation, field notes and test methods. Techniques of data analysis are: process of data analysis, data presentation, and data verification. The results showed an increase in activeness and students achievement in mathematics learning through cooperative learning model type Think Pair Share and Make A Match. It can be seen from the activeness indicators, namely: 1) before the treatment are given, there are 10 students (39%) who ask, after the treatment there are 23 students (89%). 2) before the treatment are given, there are 11 students (42%) who answer the questions, after the treatment there are 22 students (85%). 3) before the treatment are given, there are 9 students (35%) who dared present their answers in bold front of the class, after the treatment there are 20 students (77%). 4) before the treatment are given, there are 8 students (31%) who dared to respond to other students' opinions, after the treatment there are 21 students (81%). The students achievement in mathematics learning also increased, that is before the treatment given, there are 18 students (69%) who achieved  $\geq 80$  Standard of Minimum Competency after the treatment there are 25 students (96%). From this research can be concluded that the application of cooperative learning model type Think Pair Share and Make A Match can improve the activeness and the students achievement in mathematics learning.*

*Keywords: Think Pair Share, Make A Match, Activeness, Students Achievement.*

**INTRODUCTION**

Knowledge and technology has developed very rapidly, resulting in the development of science that provide positive and negative effects on all parties. Governments need to improve development in the field of education in terms of

quality and quantity. One of the efforts to improve the quality of education is improving the quality of learning.

Mathematics is one of the basic science that is very important to learn in the world of education. The activeness of student plays an important role in the learning process because of the level of activity a good student physically, mentally and socially is a measure of the quality and success of the learning process. Many factors affect the success of students in learning mathematics, one such factor is the delivery of a monotonous teacher (lecture) so that students become passive and mathematics learning atmosphere becomes boring.

Based on the results of observations conducted by researchers at class VII B SMP Negeri 1 Surakarta 2012, there were problems in the learning process in the classroom include: 1) there are 10 students (39%) who ask, 2) there are 11 students (42%) who answer the questions, 3) there are 9 students (35%) who dared present their answers in bold front of the class, 4) there are 8 students (31%) who dare to respond to other students' opinions of and there are 18 students (69%) who achieved  $\geq 80$  Standard of Minimum Competency.

Based on the background then this problem can be formulated two general formulation of the problem, namely: First, what the activeness of class VII B SMP Negeri 1 Surakarta increased after learning to use cooperative learning model Think Pair Share and Make A Match? and Secondly, what the student achievement in mathematics learning of class VII B SMP Negeri 1 Surakarta increased after learning to use cooperative learning model Think Pair Share and Make A Match?.

From these problems, teachers should be able to choose and apply the learning model is able to stimulate students to be active in the learning of mathematics and obtain maximum students achievement in learning mathematics. Alternatives that can be done to solve this problem is invite students activeness involved in the learning process. Cooperative learning model type Think Pair Share and Make A Match is a learning model that involves students actively and positively interact in groups in pairs. Think Pair Share is a cooperative learning model that begins with thinking, then pairing to discuss, and sharing the results of

the discussion to the other pairs (Agus Suprijono, 2012: 91). Make A Match is a cooperative learning model that begins with techniques to find pairs of cards that is the answer or the question (Rusman, 2011: 223).

From the problems above, then the researchers were motivated to conduct research on the application of cooperative learning model type Think Pair Share and Make A Match as an effort to increase the activeness and students achievement in mathematics learning. Because this research has objective, namely: General Purpose, there is to improve the activity and results of learning mathematics and Special Purpose, they are to improve students' mathematics learning activity in class VII B SMP Negeri 1 Surakarta in Academic Year 2012/2013 semester through cooperative learning Think Pair Share and Make A Match and to improve student learning outcomes math class VII B SMP Negeri 1 Surakarta through cooperative learning model Think Pair Share and Make A Match.

## **RESEARCH METHOD**

This research is a classroom action research (CAR) conducted by researchers and collaborate with teachers of mathematics. While the subjects in this research are students. This research is conducted in SMP Negeri 1 Surakarta in Jl. M.T. No haryono. 4 Banjarsari, Surakarta. While the allocation of research time for 5 months, from February to June. This research took sample of student in class VII B SMP Negeri 1 Surakarta with the number of students is 26 students. In this research, the researcher as observer and gives action that collaboration with mathematics teachers and students as the recipient of the action.

The research was carried out in several stages, which can be detailed in three research activities, namely: planning action, implementing action, and finishing action. The activity of planning are researchers doing early dialogue with the math teacher research partners to discuss improvements to the mathematics teacher competence, identification of the problem and its causes, problems and planning solutions that increase student activeness and students achievement in learning mathematics with the use cooperative learning model

type Think Pair Share and Make A Match. Implementation of actions carried out by the researcher as an observer on the observation and monitoring of the learning process is observed and concluded the data during the learning process. The data include teachers, students, and the classroom situation. Then, the researchers together with mathematics teachers reviewed the results reflect the actions taken as a reference to take further action as a result of research and evaluation efforts to determine the level of success and achievement measures include site planning, observation and monitoring, and reflection on any implementation of the action . Finishing of the actions carried out by researchers analyzed the data and prepared the report. Then, the researchers together with mathematics teachers make inferences actions have been implemented. The research results include increased activeness and students achievement in learning mathematics.

Data collection in this research was done by using observation, field notes, documentation, and testing methods. The observation in this research made by the researcher directly, careful, and conscientious about the phenomena occurring in the research. Observations made with the guidelines established observation. The observation is based on indicators of student activeness, they are: students who ask, students who answer the questions, students who dared present their answer in bold front off the class, and students who dared to respond to other students' opinions. Documentation is the documents which can be obtained by looking at the books, archives or records relating to schools in the form of a data list the student's name, list of values, and photos on any action. Field notes used in this study to record the important events during the process of mathematics learning takes place. And test method that is by giving a description about a matter to obtain data on students achievement in mathematics learning of each act.

Validity of the data in the research conducted by continuous observation and triangulation. Triangulation is a technique of checking the validity of the data by comparing the data is something else out. The triangulation used in this research is the triangulation method, that is by using more than one techniques of collecting data to get the same data. Implementing this triangulation by compare the result of observation, documentation, and testing method.

Techniques of data analysis in this research is done in 3 ways, namely: process of data analysis, data presentation, and data verification. The process of data analysis by researchers examine how all data from various sources before action. Then the researchers make a summary as a base to carry out data reduction of activity which has 3 elements, namely: selecting data on the basis of relevance, collating data in units of the type or system simplification, streamlining and focusing system and transfer from the base to field notes. Presentation of data in this research was done by researchers compile relevant data so that it can be concluded that accurate information and have specific meanings by way of displaying the data and make the relationship between the variables, the researchers understand what is happening and what needs to be followed to achieve the research objectives. Verification of the data in the study done by draw conclusions gradually to acquire a high degree of confidence. Data verification is done on each cycle of action and ultimately verify the data is combined into conclusions.

## **RESULTS AND DISCUSSION**

This research begins with the first observations to establish which issues will be taken as the focus of research and determine the indicators that will be achieved in the activeness and students achievement in mathematics learning. The activeness indicators, namely: students who ask, students who answer the questions, students who dared to present their answer in bold front of the class, and students who dared to respond to other students' opinions. Indicators of activeness success gives effect on students achievement in mathematics learning in the classroom. The student achievement in mathematics learning has indicator, that is students can achieve  $\geq 80$  Standard of Minimum Competency.

Results of the first observations before action by implementing cooperative learning model type Think Pair Share and Make A Match, student activeness levels still varied, namely: 1) there are 10 students (39%) who ask, 2) there are 11 students (42%) who answer the questions, 3) there are 9 students (35%) who dared to present their answers in bold front of the class, 4) there are 8

students (31%) who dare to respond to other students' opinions and there are 18 students (69%) who achieved  $\geq 80$  Standard of Minimum Competency.

In the first cycle, cooperative learning model type Think Pair Share and Make A Match is not yet fully implemented even though the teacher reminds students to demonstrate its activeness during the learning process. However, the level of activeness of students has increased from the first action. This improvement can be seen from the activeness indicators, namely: 1) before the treatment are given, there are 10 students (39%) who ask, after the treatment there are 19 students (73%). 2) before the treatment are given, there are 11 students (42%) who answer the questions, after the treatment there are 15 students (58%). 3) before the treatment are given, there are 9 students (35%) who dared to present their answers in bold front of the class, after the treatment there are 16 students (62%). 4) before the treatment are given, there are 8 students (31%) who dared to respond to other students' opinions, after the treatment there are 14 students (54%). The students achievement in mathematics learning also increased, that is before the treatment given, there are 18 students (69%) who achieved  $\geq 80$  Standard of Minimum Competency, after the treatment there are 23 students (89%).

In the second cycle, the indicators of activeness have increased from the first cycle. This improvement can be seen from the activeness indicators, namely: 1) before the treatment are given, there are 19 students (73%) who ask, after the treatment there are 23 students (89%). 2) before the treatment are given, there are 15 students (58%) who answer the questions, after the treatment there are 22 students (85%). 3) before the treatment are given, there are 16 students (62%) who dared to present their answers in bold front of the class, after the treatment there are 20 students (77%). 4) before the treatment are given, there are 14 students (54%) who dared to respond to other students' opinions, after the treatment there are 21 students (81%). The students achievement in mathematics learning also increased, that is before the treatment given, there are 23 students (89%) who achieved  $\geq 80$  Standard of Minimum Competency, after the treatment there are 25 students (96%).

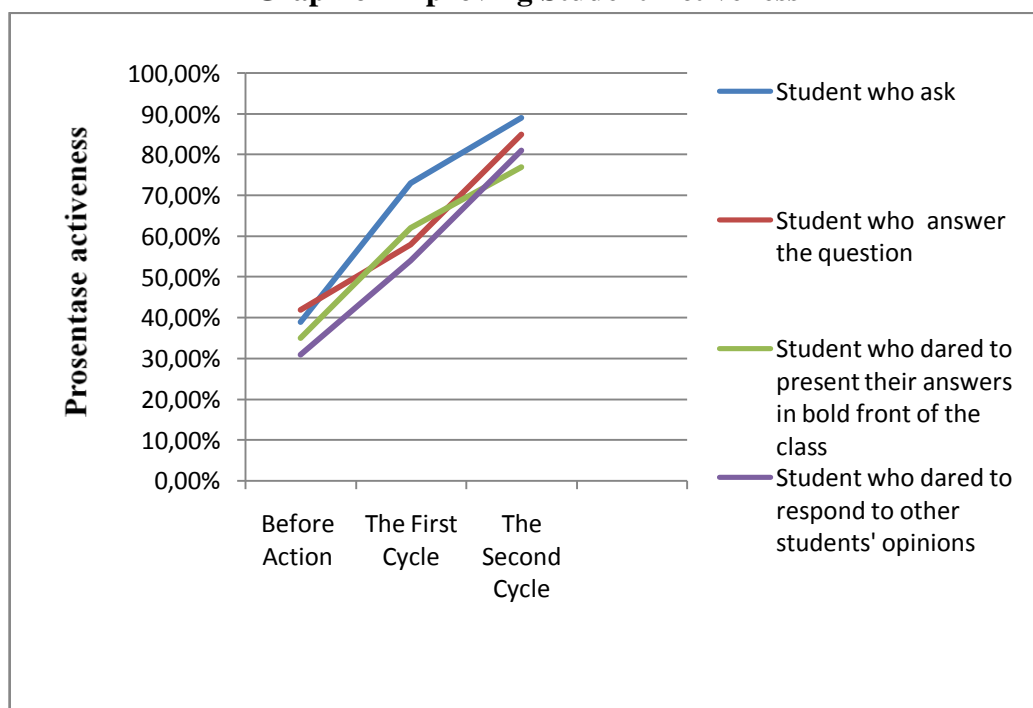


Increase student activeness impact on students achievement in mathematics learning. Students achievement in mathematics learning has increased, the increase can be seen from the results of the individual tests in the form of a description with indicator students can achieve  $\geq 80$  Standard of Minimum Competency. The results of any action research can be illustrated in Table 1 and Table 2 as follows:

**Table 1**  
**Data of Improving Student Activeness**

Student Activeness	Before Action	The First Cycle	The Second Cycle
Student who ask	10 students (39%)	19 students (73%)	23 students (89%)
Student who answer question	11 students (42%)	15 students (58%)	22 students (85%)
Student who dared present their answers in bold front of the class	9 students (35%)	16 students (62%)	20 students (77%)
Student who dared to respond to other students' opinions	8 students (31%)	14 students (54%)	21 students (81%)

**Graph 1**  
**Graph of Improving Student Activeness**



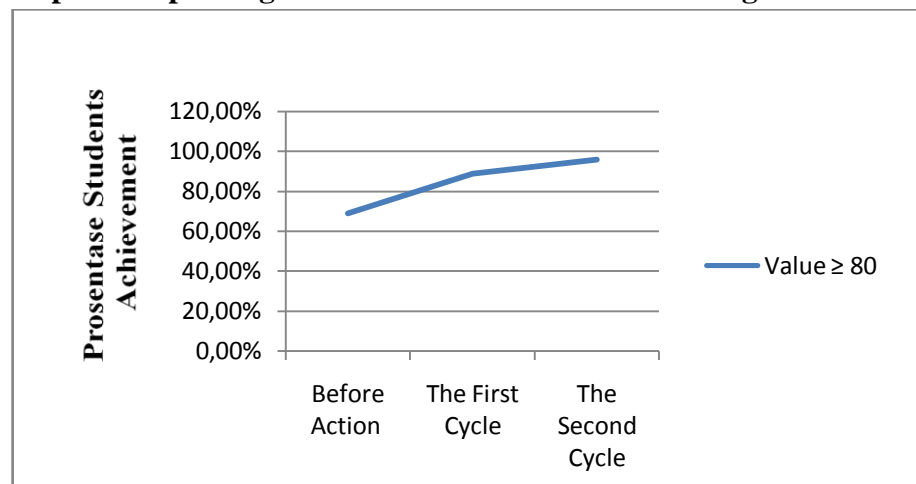
**Table 2**

**Data of of Improving Students Achievement in Learning Mathematics**

Student achievement in learning mathematics	Before Action	The First Cycle	The Second Cycle
Value $\geq 80$	18 students (69%)	23 students (89%)	25 students (96%)

**Graph 2**

**Graph of Improving Students Achievement in Learning Mathematics**



Based on Figure 1, it can be concluded that the application of cooperative learning model type Think Pair Share and Make A Match can increase activeness and students achievement in mathematics learning of students of SMP Negeri 1 Surakarta. This improvement can be seen from the increased activeness indicators, namely: students who ask, students who answer questions, students who dared to present an answer in bold front of the class, and students who dared to respond to other students' opinions. This increase in activeness indicators impact on improving students achievement in mathematics learning that can be seen in Table 2. The table explains that students achievement in mathematics learning of students has increased, the better, the improvement can be seen from the changes made during the action cycle, ie before the action until the end of the second cycle.

Based on the observations that have been made by researchers in the first cycle of action, it can be concluded that the activeness indicator is used as the

focus of research has increased, although there are two indicators of activeness that has not been achieved. In the first cycle, students began to show its activeness indicators, namely students has awareness to ask if they have difficulty in learning better to ask other students or ask the teacher, some student who answering questions from students as well as a presentation in front of the teacher after class reflecting on learning, students who dare to present the answer in front of the class after a discussion with her partner, and some students who dared to respond to other students' opinions if you have a different opinion.

Although this, the learning cycle I have not achieved fully. Teachers still looks difficult to restrict the same student in the presentation asked the students in the classroom, teachers also have not been up to remind students to show other activeness indicators, namely: to answer questions and respond to other students' opinions. Students were still forced to applied learning models, and complained of the lack of rigor in selecting student teachers have the opportunity to ask questions, answer questions, and provide feedback to students whose presentation to the class, so students are not optimally motivated to answer questions and respond to opinions other students.

The results of the first cycle of reflection on action as a reference for subsequent class action. Based on the results of the first cycle of action reflection, the implementation of the second cycle gives better results than the action cycle I. It can be seen from the achievement of all activeness indicators, such students are more motivated to ask questions, answer questions, present their answers in front of the class, and respond to other students' opinions. Classroom atmosphere is also more conducive than before.

Research on increasing student activeness has been carried out by several the first investigators, one of which is research that has been conducted by Muvida nurhayati (2013). The research is also used to increase student activeness, but the activeness of learning models and indicators used are different. Nurhayati Muvida Research (2013), the results obtained by using Hand Out can improve activeness of student in learning. Indicators used in this research, namely: the activeness of the discussion group, the activeness of expression, activeness for

utilizing the time, the idea of building activeness, and the activeness of drawing conclusions.

Based on the results of the above description, the implementation of cooperative learning model type Think Pair Share and Make A Match to create a more conducive classroom atmosphere, so as to encourage students to be more active in the learning process that impact on students achievement in mathematics learning.

## **CONCLUSIONS AND RECOMMENDATIONS**

This research is a class action regarding the implementation of cooperative learning model type Think Pair Share and Make A Match in order to improve the activeness and students achievement in mathematics learning. The steps of cooperative learning model type Think Pair Share and Make A Match, namely: 1) the teacher gave questions or issues to students and students to think independently answer; 2) the teacher asks the students to pair up with other students to discuss the answers and answering questions and 3) The teacher asks the students to present the results of discussions with her partner in front of the class (Sharing); 4) the review session, the teacher gives the card contains questions or answers to any student; 5) the teacher asks the students to match the card with another student before the allotted time runs out; 6 ) teacher gives extra points and prizes to students who can match his cards before the allotted time runs out; 7) teachers together with students to make inferences learning, then the teacher gives individual evaluation questions to each student. After that, the teacher asks students to collect the answer then the teacher gives information about homework.

Cooperative learning model type Think Pair Share and Make A Match can improve students achievement in mathematics learning. This improvement can be seen from the activeness indicators, namely: 1) students who ask before action by 10 students (39%), after the action in the first cycle to 19 students (73%), and the second cycle to 23 students (89 %). 2) students who answer question before the actions were 11 students (42%), after the action in the first cycle to 15 students

(58%), and the second cycle to 22 students (85%). 3) students who dared to present an answer before the action by 9 students (35%), after the action in the first cycle to 16 students (62%), and the second cycle to 20 students (77%). And 4) students who dared to respond to other students' opinions before the action by 8 students (31%), after the action in the first cycle to 14 students (54%), and the second cycle to 21 students (81%).

Based on the results of research conducted by researchers and collaborating with seventh grade math teacher B SMP Negeri 1 Surakarta in order to improve the activeness and students achievement in mathematics learning through cooperative learning model type Think Pair Share and Make A Match, the researchers gave the following advice: 1) to mathematics teacher, the teacher is expected to encourage and motivate students to demonstrate its activeness in the learning process, as this can reduce the tedious monotony of learning to make passive students in the learning process. 2) to students, are expected to show an active attitude in the learning process in the classroom, such as: having awareness of the importance of asking for material that is considered to be difficult, to answer questions from teachers and other students, present their answers in bold front of the class, and respond to other students' opinions if you have opinions different. 3) to further research, is expected to conduct research by expanding other indicators that can improve student learning activeness in the learning process, because the indicators activeness affect students' achievement in mathematics learning, and to improve the quality of learning in the world of education.

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